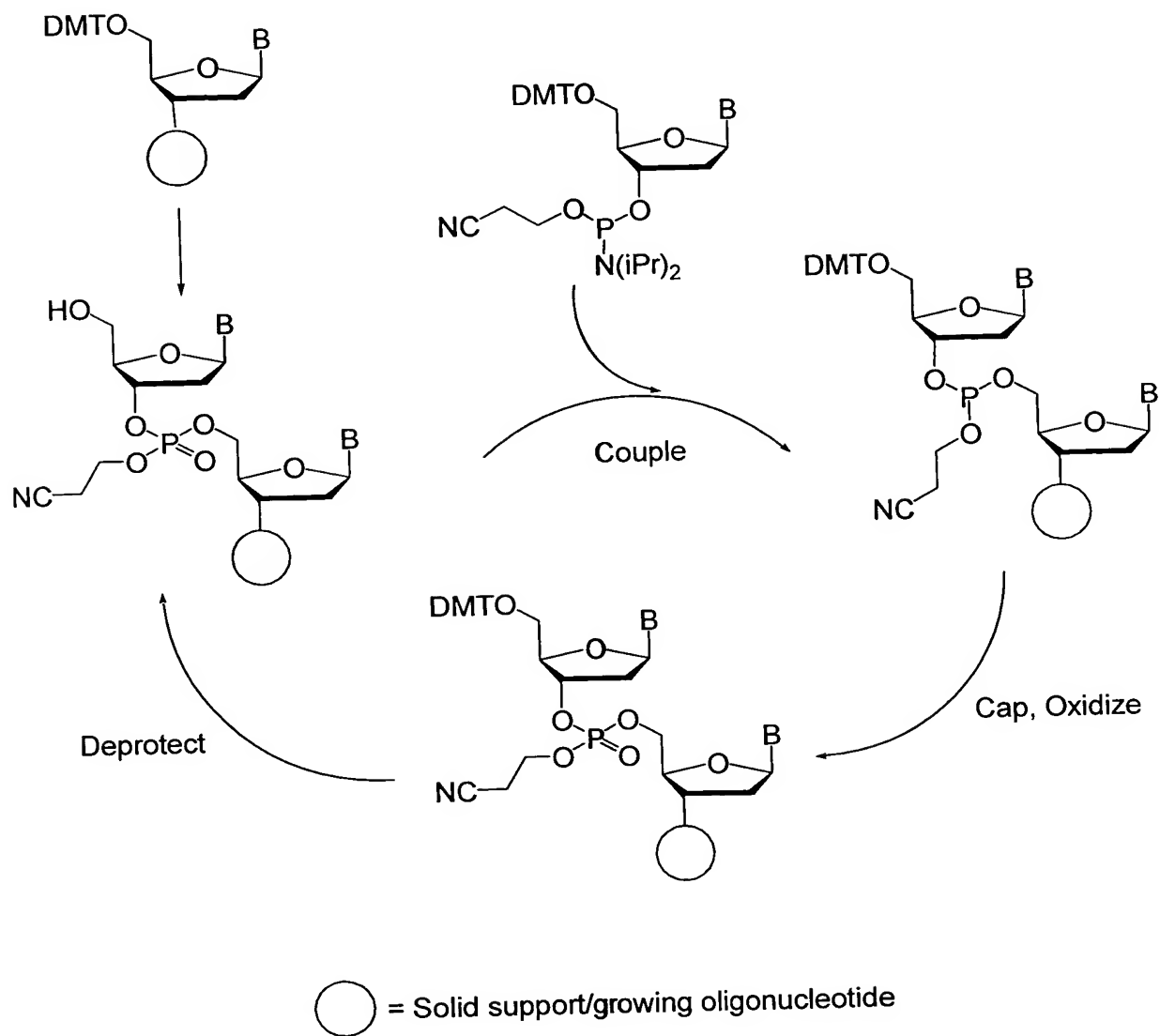


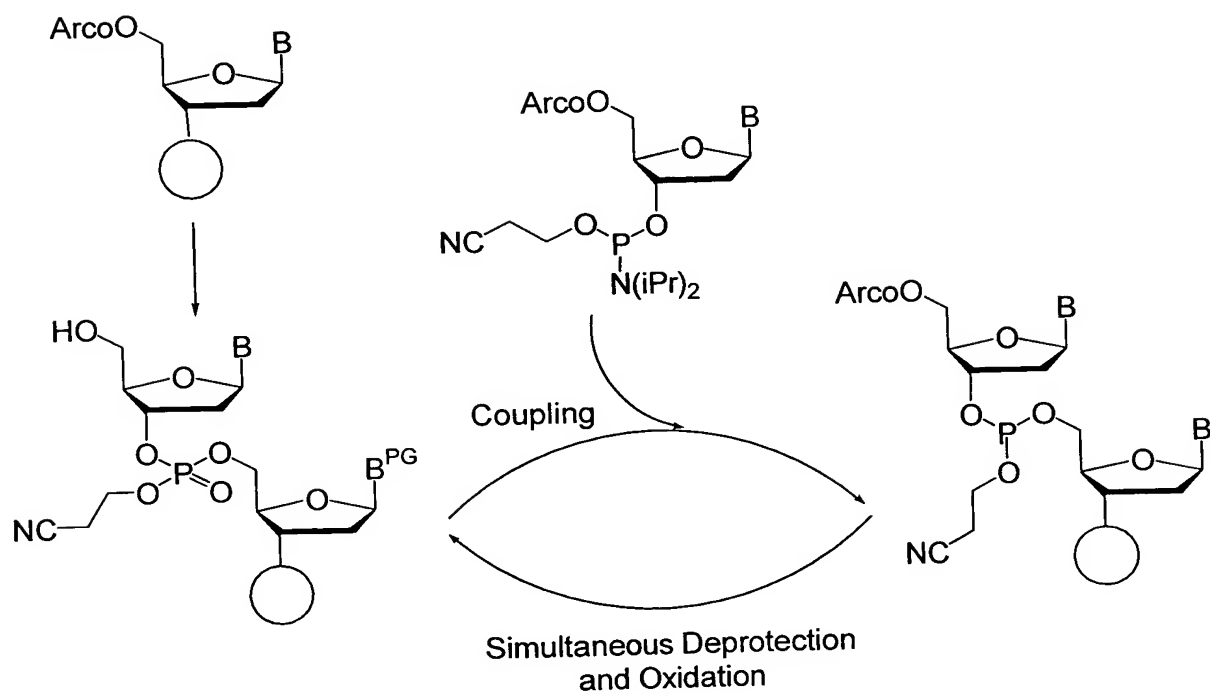
# FIGURE 1

## 3'-5' Synthesis With DMT Protection

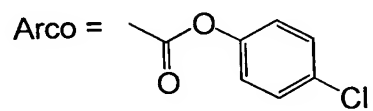


## FIGURE 2

### 3'-5' Synthesis With Carbonate Protection

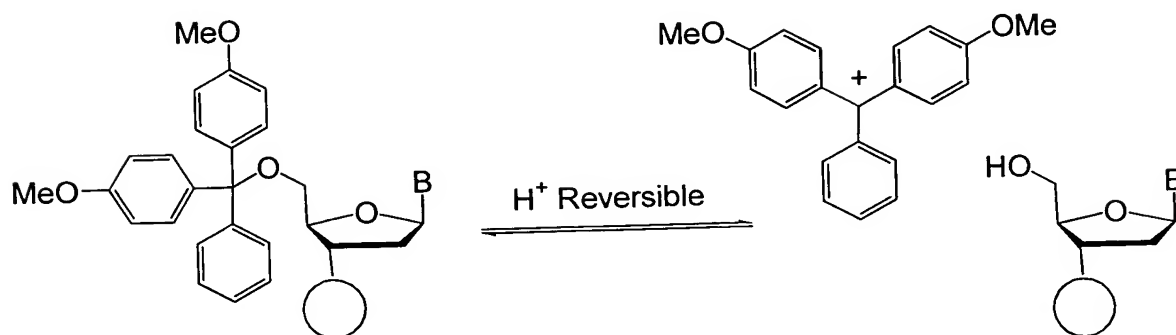


○ = Solid support/growing oligonucleotide

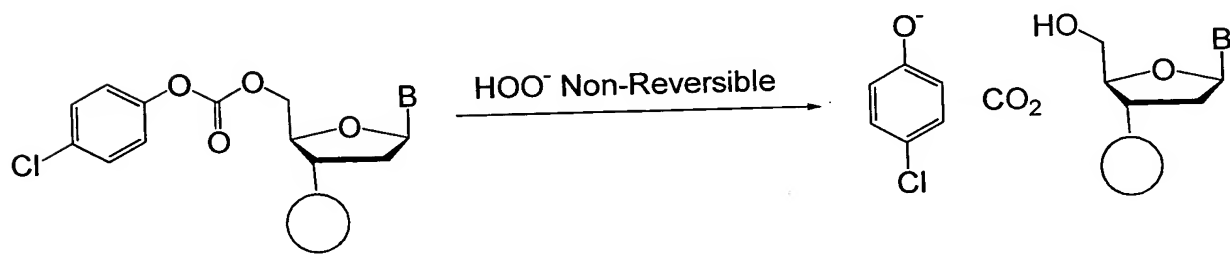


## Comparison of Deprotection Mechanisms

**FIGURE 3A**

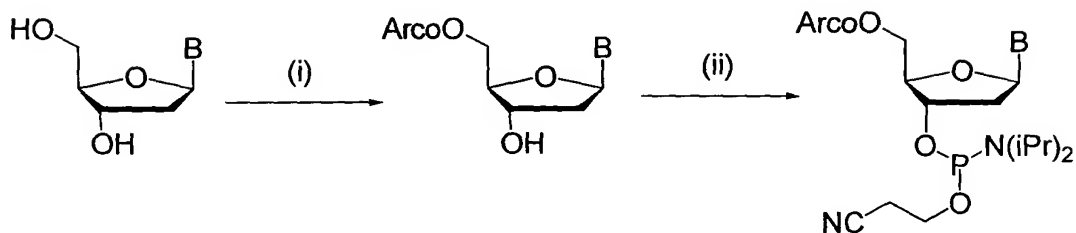


**FIGURE 3B**



## FIGURE 4

### 5'-Arco-3'-Amidite Synthesis



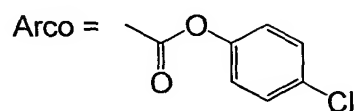
B =

a A(N<sup>6</sup>-Bz)

b C(N<sup>4</sup>-Fmoc)

c G(N<sup>2</sup>-ibu)

d T

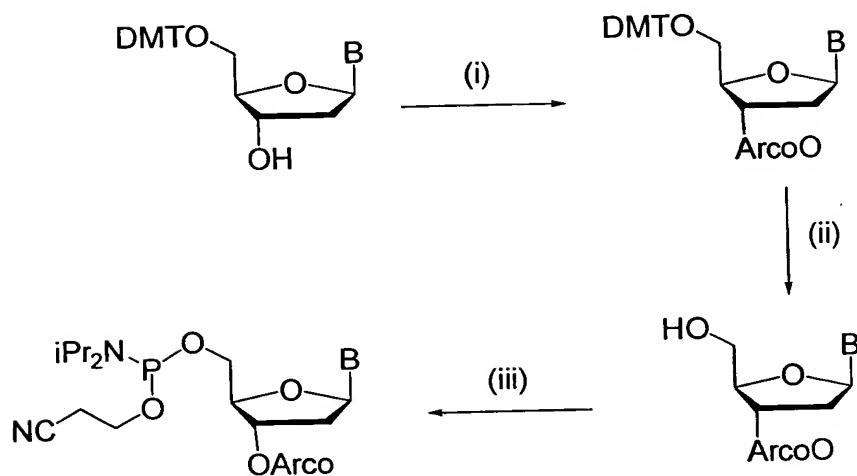


(i) 4-Chlorophenyl chloroformate/pyridine/2 h;

(ii) (iPr<sub>2</sub>N)<sub>2</sub>PO(CH<sub>2</sub>)<sub>2</sub>CN/tetrazole/CH<sub>2</sub>Cl<sub>2</sub>/1 h.

## FIGURE 5

### 5'-Arco-3'-Amidite Synthesis



B =

a  $\text{A}(\text{N}^6\text{-Bz})$

b  $\text{C}(\text{N}^4\text{-Fmoc})$

c  $\text{G}(\text{N}^2\text{-ibu})$

d T

(i) 4-Chlorophenyl chloroformate/pyridine/2 h;

(ii) 3% Trichloroacetic acid/ $\text{CH}_2\text{Cl}_2$ /3 min;

(iii)  $(\text{iPr}_2\text{N})_2\text{PO}(\text{CH}_2)_2\text{CN}$ /tetrazole/ $\text{CH}_2\text{Cl}_2$ /1 h.

FIGURE 6

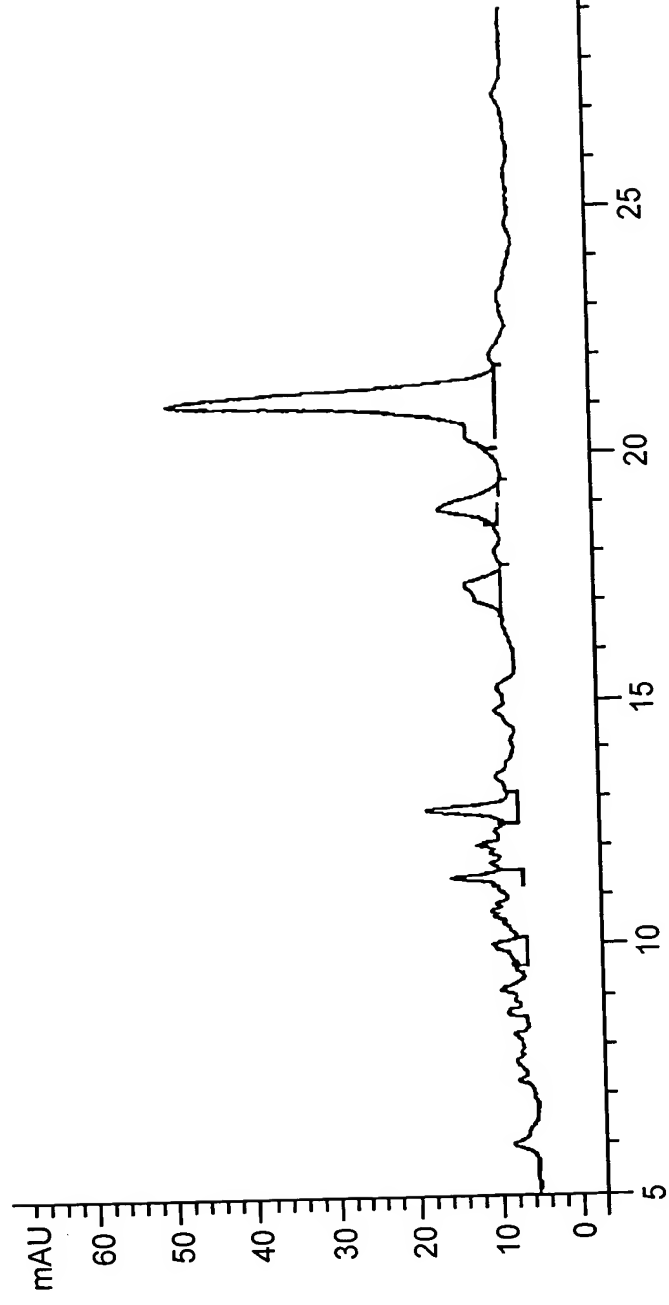


FIGURE 7

